

*** NETANSWERS INTERNET EXTRA ***

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Tired of plodding along on the Web at 28.8 or even 33.6 Kbps? Fast, cheap Internet access seems to be just on the horizon: 56K modems, cable access, DSL, and ISDN. Are these technologies real or just a mirage?

=*=*= HIGH-SPEED ACCESS: DREAM OR REALITY? =*=*=

They don't call it the World Wide Wait for nothing. Accessing the Internet can be dreadfully slow. Painfully slow. Glacial. Visiting a graphics-heavy web site after work or on the weekend can try the patience of even the most tolerant person. And if you've ever downloaded a really big file -- say, the latest version of Netscape Communicator or a sound file -- you know that patience truly is a virtue to an Internet user.

The bottleneck is sitting right there on your desk: your modem. As it sucks down bits from the Internet and blinks its little lights at you, your modem is the last leg of the journey -- and the slowest -- that information must take on its way from the world to your computer screen. 28,800 bits per second is great for e-mail, reading newsgroups and even a little web surfing, but not enough for the multimedia web sites that are all-too-common on the Net. Even users who have invested in one of the newer modems that receive data at 33,600 ask the question aloud: "When will we get some real speed?" There are several answers for faster Internet access: some are inexpensive, some are reliable, some are a reality.

-.-. 56K Modems -.-.

A 56K modem is the least expensive way to get a speed boost. Up to 65% faster than the 33.6 modem on your desk, 56K modems are the top of the line for speed over plain old analog phone lines -- and probably will be the limit, at least for a few years.

Although 56K is the maximum speed that you can receive files with these modems, information your computer sends straggles out at 33.6Kbps. For accessing web sites, downloading files and other common tasks where there's a lot of incoming data and little outgoing, 56K modems can speed things up considerably.

Inexpensively, too -- the cost of these modems ranges from around \$150 to \$250.

A new modem isn't all you need: your Internet service provider must also have 56K modems -- and the right kind. There are two competing standards for 56K modems: x2 and K56flex. These standards use different protocols to communicate at high speeds, and are incompatible -- calling an x2 modem from a K56flex modem (or vice versa) will yield a connection of 33.6K or even slower. Before you invest in a 56K modem, ask your Internet service provider which standard they use. Makers of the two systems are working to create one standard that will let x2 and K56flex communicate at the highest speeds. Experts predict that the babel will continue until mid-1998, at earliest.

If access the Internet by dialing into CompuServe's own network, check to see if there are any 56K access numbers in your area: GO PHONES to do so. CompuServe has not officially announced its intention to standardize on either x2 or K56flex, but currently has x2 modems available in many cities.

One more caveat -- even when everyone has compatible equipment, 56K modems are very finicky about connection quality. Even the slightest amount of line noise will cause the modems to drop to a slower speed -- or disconnect altogether. Even with good quality lines, it is rare to see connections over 50K, and unexpected disconnections can be an unwelcome interruption.

-.-.- ISDN -.-.-

ISDN -- Integrated Services Digital Network -- delivers information at up to 128 thousand bits per second -- nearly four times the speed of that lagging 33.6K modem. A more expensive option, ISDN requires you and your Internet service provider to have a special phone line (since ISDN is digital, plain old analog lines won't do). The cost of an ISDN line depends on your phone company, and varies considerably -- from around \$40 to several hundred dollars a month for even casual use.

You'll also need equipment -- either an "ISDN modem" (around \$300) for connecting a single computer, or an ISDN router (\$600 and up) which can simultaneously connect several computers on a local area network.

ISDN is fast and reliable, but it is infamous in its difficulty to get working the first time. Getting an ISDN line installed and tested can take weeks, and getting an ISDN router configured and chatting amicably with your Internet service provider's can take patience and a few prayers.

-.-.- Cable Internet -.-.-

A budding technology that is getting a lot of attention is cable Internet access. If you have cable television, you're already receiving hundreds of thousands of megabits of data every second in television signals. Wouldn't it be nice to harness some of that bandwidth to access the Internet? Although most cable companies aren't quite ready to provide Internet access, the technology is there. Depending on the equipment you use, you will be able to hook a cable modem to your computer, or directly to your television set so you can surf the Web using a special remote control.

For about 27,000 U.S. households, cable Internet access is a reality today. There are four major providers of cable Internet access, and several smaller players, serving a smattering of locales. Chances that your area is covered today are not good. Industry execs expect that within three years, Internet access via cable will be an option for 30 million American households -- a hefty number, but a far cry from the 67 million who subscribe to cable television today.

In order to offer Internet access via the same wire that your television signals travel on, your cable company allocates part of its bandwidth, enough to carry a TV channel or two, to Internet traffic. The cable company broadcasts incoming Internet packets to everyone, but unlike a T.V. signal, which can be seen by anyone who is tuned to that channel, each Internet packet has an address which assures only its intended recipient will see it.

Cable modems cost around \$300. It is probable that when your cable company offers Internet access, it will rent the modem to you -- or even loan it to you for free.

The cost of Internet service is up to the cable company -- today, prices range from \$35 to \$80 for all-you-want access, with \$49.95 being about average. The access is fast and the connection is always up -- you don't have to wait for a modem to dial, nor will you hear a busy signal.

Cable modems can theoretically deliver data at up to 350 times the speed of a 28.8 modem, but you won't have all that speed to yourself. Cable access is a shared resource. Subscribers share the bandwidth with the cable customers on several nearby blocks. If every cable customer logs in to the Net at once (not likely) your access speed will slow down. On the other hand, if you're the only one online (also not likely) you get the bandwidth to yourself. 10 MBPS is more than enough bandwidth to go around.

Sending data over cable isn't as easy as receiving it. Due to technical limitations, most cable Internet services don't let you send data via cable. So, hybrid systems in which incoming data comes via cable but outgoing data travels on your phone line with a traditional modem, are most common. For web browsing and downloading, this situation works nicely since you're receiving a lot of information and sending very little. If you want to send gobs of data quickly -- for instance, by setting up a web server in your home or using videoconferencing to talk to grandma -- this setup won't provide enough outgoing bandwidth.

--- Other Options ---

DSL, Digital Subscriber Line, is another emerging technology for high-speed access. For receiving data, DSL is 52 to 139 times faster than a 28.8 modem. Like cable, is much slower when sending data, at 2 to 17 times the speed of a modem. Unfortunately, DSL is available in even fewer cities than cable Internet access. In addition, the hardware necessary to use it is expensive -- equipment costs \$450-\$700. Although it uses the phone lines that are already in your house, it is still difficult to set up and expensive. DSL has promise, but it is only ready for prime time for a handful of users.

"Wireless cable" is another option in a smattering of metropolitan areas. These services offer Internet access (as well as television channels) that are received with a dish or other antenna rather than via a wire linking your house to the cable company. Wireless cable is a reality today -- at least in the few cities that are lucky enough to have it. Several their systems for wireless access are being tested, including new frequencies and delivery via low power television.

Satellite delivery of Internet data is another option -- DirecPC (www.direcpc.com) pumps Internet traffic into space and bounces it back onto your computer at 400 KBPS, but you'll need a small satellite dish, about \$300, to get started. Sending data to the Internet occurs over a relatively slow analog modem. Unlike cable Internet access (and even modem access), Satellite time is expensive, so DirecPC does not provide all-you-can-eat access: users are charged by the amount of information that they download. DirecPC only works with Windows computers -- Macintosh users and users of other computer systems are out of luck.

Is there high speed Internet access in your future? Almost definitely. If you're hankering for more than 56KBPS -- unless you're one of the lucky few serviced by a phone or cable company on the cutting edge -- probably not for a few months or even longer.

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The NetAnswers Internet Extra is free to all CompuServe members. It's available in the Internet Community Forum -- GO INETCOM and look in file library 11, "NetAnswers".

Got comments or ideas for future newsletter issues? We want to hear 'em. Just send a message to savetz@compuserve.com.

Steve walks warily down the street with the brim pulled way down low. Ain't no sound but the sound of his feet, machine guns ready to go. Are you ready, are you ready for this, are you hanging on the edge of your seat? Out of the doorway the bullets rip to the sound of "Copyright 1997 by Kevin Savetz."